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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:		ATTORNEY FILE NO.: SLA0830
Inventors:	Ono et al.	
Serial No.:	10/805,158	Examiner: Pizarro-Crespo, Marcos
Filed:	March 19, 2004	Customer No.: 55,286
Title:	CHARGE TRAP NON-VOLATILE MEMORY STRUCTURE FOR 2 BITS PER TRANSISTOR	Group Art: 2814 Confirmation No.: 8642

CERTIFICATION UNDER 37 CFR § 1.8

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REPLY TO EXAMINER'S ANSWER

This paper is response to an Examiner's Answer mailed on February 28, 2007 by Examiner Marcos Pizarro-Crespo, Group Art Unit 2814. The Examiner's Answer was responsive to a Brief appealing the rejection of claims 16-17 and 20-28 of the above-referenced application.

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ARGUMENT

In Section 4 of the Office Action claims 16-17, 20-22, and 25-27 have been rejected under 35 U.S.C. 103(a) as unpatentable with respect to Halliyal, in view of King and Kirkpatrick.

With respect to the third *prima facie* requirement, even if the references are combined, they do not disclose all the elements of the claimed invention. Applicant's claim 16 recites the steps of forming a gate stack with a single layer of a charge trapping high-k dielectric, without underlying/overlying oxide insulator layers. As described in detail in the Applicant's Appeal Brief, none of the references disclose the above-mentioned limitation. Even if the references are indiscriminately combined, that combination does not suggest the limitation of a gate stack with a single layer of a charge trapping high-k dielectric, without underlying/overlying oxide insulator layers.

With respect to the first *prima facie* requirement, the Office Action states that it would have been obvious to combine the references, to increase the number of storage sites within the dielectric layer. However, even if this statement were correct, it does not explain *how* an expert in the art could have modified the Halliyal reference in such a way as to describe the claimed invention. As explained above in response to the third *prima facie* requirement, even when combined, the three references fail to disclose all of the claimed invention limitations. The above-quoted statement from Office Action does not explain how even a person with skill in the art could modify Halliyal's high-k dielectric transistor, in light of NDR-FET and IGFET fabrication processes (King) or

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Kirkpatrick' process for implanting a silicon dioxide insulator with Si ions. Alternately stated, the motivation to combine these references cannot be built upon a mere desire to increase the number of trapping sites. Rather, to meet the first *prima facie* requirement, there must be explicit teachings in the references that would show an expert how the Halliyal reference could be modified to yield the claimed invention. Such a *prima facie* case has not been made, simply because all the Applicant's claim limitations cannot be found in the Halliyal reference, and no rationale has been put forth to explain how an expert in the art could randomly take some features from King and Kirkpatrick (and ignore other features).

Alternately, if the Examiner is relying upon the knowledge of a person with skill in the art to supply motivation lacking the Halliyal/King/Kirkpatrick references, then additional evidence must be provided. Notable, when the source or motivation is not from the prior art references, "the evidence" of motive will likely consist of an explanation or a well-known principle or problem-solving strategy to be applied". *DyStar*, 464 F.3d at 1366, 80 USPQ2d at 1649. The Examiner has not supplied any explanation of how an expert have modified the prior art processes to form a gate stack with a single layer of a charge trapping high-k dielectric, without underlying/overlying oxide insulator layers.

As in the Office Actions, the Examiner's Answer still provides no evidence to show a reasonable expectation of success in the claimed invention, which is the second *prima facie* requirement.

In summary, the Applicant respectfully submits that a *prima facie* case of obvious has not been supported, and the Applicant requests

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that the rejection of claim 16, and all claims dependent from claim 16 be reversed.

Respectfully submitted,

Date: 3/15/2007

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